

Fig. 5 Camshafts of the same dimension (optical size differences are caused by photography)

- a) according to the present inventionb) in a conventional cast construction

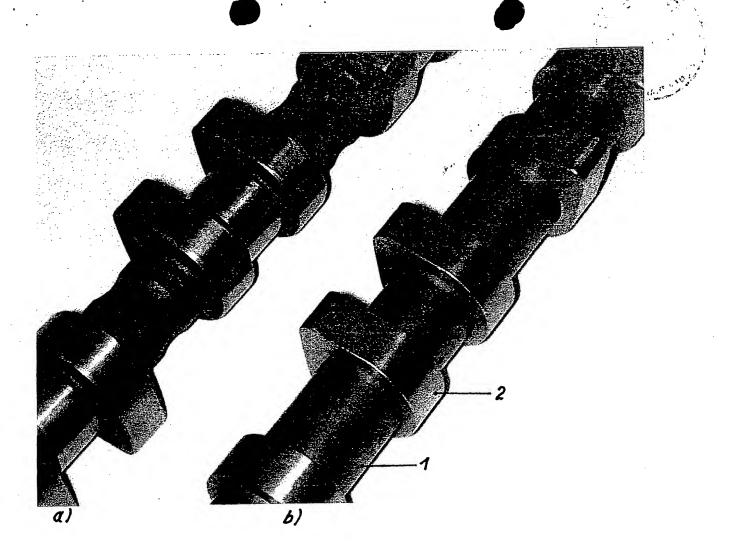


Fig. 6 Camshafts (detail part of Fig. 1, about natural size)

- a) in a conventional cast construction of a single pieceb) in built-up construction according to present invention

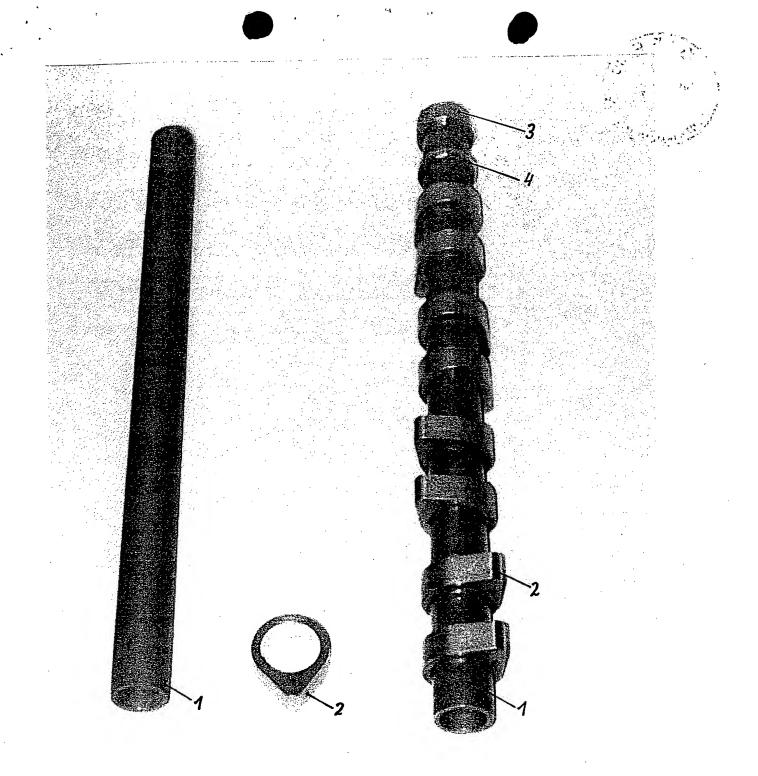


Fig. 7 Built camshaft according to present invention

1-smooth coated tube, 2 -cam, 3 -end piece, 4 -bearing ring

prior to pressing contact model rough/smooth

after the pressing under operational conditions

conversion layer rough smooth

hard and solid during pressing plastic deformation and densification

Fig. 8 Change of the conversion layer based on pressing of the press connection and forming of a micro form matching (right of picture)